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EXAMINER	
WONG, ALAN	
ART UNIT	PAPER NUMBER
2817	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/01/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)
	10/532,929	SVECHTAROV ET AL.
	Examiner Alan Wong	Art Unit 2817

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 27 April 2005.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-20 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-3 and 15-20 is/are rejected.
- 7) Claim(s) 4-14 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 27 April 2005 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Offjce Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>10/31/06</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to because the drawings (Fig. 1 and Fig. 2) show only blocks with numbers. **Please provide the names/functions of the blocks on the blocks.** Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities: Page 4 line 24-28: "For example, one of the sensor amplifiers may be thermally connected to the RF amplifier device and experience degradation changes" appears to mean that

because the sensor is thermally connected to the RF amplifier device, thus it experience degradation changes. Since the other sensor is also thermally connected to the RF amplifier, it is **contradictory** that “one sensor amplifier characteristics change with time, while the other sensor amplifier characteristics do not” because both sensors are thermally connected and thus experience degradation changes.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 1-3, 16, 17, and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Wieczorek (US 5,192,919).
5. With respect to claim 1, Wieczorek discloses an amplifier bias circuit (Fig. 1 item 381, 309, 360, 333) connectable to an amplifier device (332), comprising:

at least one first sensor device (360) for sensing a first amplifier characteristic (battery power supply voltage to the amplifier; Col. 2 line 31-34) and for providing, at a first sensor output (connection from voltage sensor 360 to controller 309), a bias signal related to the second amplifier characteristic (related to the supply voltage; Col. 24-36);

at least one second sensor device (380) for sensing a second amplifier characteristic (temperature) and for providing, at a second sensor output, a bias signal

related to the second amplifier characteristic (381; related to temperature; Col. 5 line 3-13);

which first sensor output (node between voltage sensor 360 and controller 309) and second sensor output (node temperature sensor 380 and controller 309) are each connectable to **at least one** bias input of said amplifier device (both outputs connected to controller 309 that connected to power control 333 that connect to the amplifier 332 to provide bias; Col. 3 line 21-40).

6. With respect to claim 2, Wieczorek discloses the first sensor device (360) is for sensing a lifetime dependent characteristic of the amplifier device (the amplifier 332 depends on the power supply voltage B+ from battery 350 to operate, thus it is a lifetime dependent characteristic which the voltage sensor 360 senses).

7. With respect to claim 3, Wieczorek discloses the second sensor device (380) is for sensing a temperature dependent characteristic of the amplifier (Col. 5 line 3-13).

8. With respect to claim 16, Wieczorek discloses at least one (380) of the sensor devices has at least one characteristic (temperature) which corresponds to at least one of said amplifier characteristic (temperature sensor 380 would be sensing the same temperature as in the amplifier).

9. With respect to claim 17, Wieczorek discloses a circuit (Fig. 1) useable in a method for biasing an amplifier device (332) comprising the steps of:

providing first means (360) for sensing a change of a first characteristic of the amplifier device (voltage of battery power supply 350; Col. 2 line 31-34; Col. 5 line 24-36);

providing a first bias signal (at node between voltage sensor 360 and controller 309) related to the first characteristic (voltage of battery power supply 350) of the amplifier device (Col. 5 line 24-36);

providing second means (380) for sensing a change of a second characteristic (temperature) of said amplifier device (380);

providing a second bias signal (381) related to said change (Col. 5 line 3-13);

and

presenting the bias signals to **at least one** bias input of the amplifier device (both bias connected to controller 309 that connected to power control 333 that connect to the amplifier 332 to provide bias; Col. 3 line 21-40).

10. With respect to claim 20, Wieczorek discloses an apparatus (Fig. 1) comprising an amplifier bias circuit (380, 360, 309, 333) connectable to an amplifier device (332), the amplifier bias circuit comprising: at least one first sensor device (380) for sensing a first amplifier characteristic (temperature) and for providing at a first sensor output, a bias signal related to the first amplifier characteristic (381; Col. 5 line 5-11); at least one second sensor device (360) for sensing a second amplifier characteristic (battery power supply voltage to the amplifier; Col. 2 line 31-34) and for providing, at a second sensor output (connection from voltage sensor 360 to controller 309), a bias signal related to the second amplifier characteristic (related to the supply voltage; Col. 24-36); which first sensor output (node temperature sensor 380 and controller 309) and second sensor output (node between voltage sensor 360 and controller 309) are each connectable to **at least one** bias input of said amplifier device (both outputs connected to controller 309

that connected to power control 333 that connect to the amplifier 332 to provide bias; Col. 3 line 21-40).

11. Claim 1, 17, and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Dacus et al. (US 6,008,698).

12. With respect to claim 1, Dacus et al. disclose an amplifier bias circuit (Fig. 11 item 58, 202, 80) connectable to an amplifier device (102), comprising:

at least one first sensor device (58) for sensing a first amplifier characteristic (current) and for providing, at a first sensor output (84), a bias signal related to the first amplifier characteristic (Col. 5 line 35-40);

at least one second sensor device (202) for sensing a second amplifier characteristic (output envelope signal S_{env}) and for providing, at a second sensor output (208), a bias signal related to the second amplifier characteristic (Col. 14 line 1-19);

which first sensor output (84) and second sensor output (208) are each connectable to **at least one** bias input of said amplifier device (both outputs connected to signal processor 80 that provide gate bias at node 112 to the amplifier 102; Col. 14 line 35-42).

13. With respect to claim 17, Dacus et al. disclose a circuit (Fig. 11) useable in a method for biasing an amplifier device (102) comprising the steps of:

providing first means (58) for sensing a change of a first characteristic (current) of said amplifier device; providing a first bias signal (signal at node 84) related to said change (Col. 5 line 35-40);

providing second means (202) for sensing a change of a second characteristic of the amplifier device (output envelope signal S_{env}); providing a second bias signal (208) related to the second characteristics of the amplifier device (Col. 14 line 1-19); and

presenting the bias signals to **at least one** bias input of the amplifier device (both bias connected to signal processor 80 to provide gate bias V_{DG} at node 112 to the amplifier 102; Col. 14 line 35-42).

14. With respect to claim 20, Dacus et al. disclose an apparatus (Fig. 11) comprising an amplifier bias circuit (58, 202, 80) connectable to an amplifier device (102), the amplifier bias circuit comprising: at least one first sensor device (58) for sensing a first amplifier characteristic (current) and for providing, at a first sensor output (84), a bias signal related to the first amplifier characteristic (Col. 5 line 35-40);

at least one second sensor device (202) for sensing a second amplifier characteristic (output envelope signal S_{env}) and for providing, at a second sensor output (208), a bias signal related to the second amplifier characteristic (Col. 14 line 1-19);

which first sensor output (84) and second sensor output (208) are each connectable to **at least one** bias input of said amplifier device (both outputs connected to signal processor 80 that provide gate bias at node 112 to the amplifier 102; Col. 14 line 35-42).

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

17. Claim 15, 18, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dacus et al. (US 6,008,698) in view of Dening et al (US 6,720,831).

18. With respect to claim 15, Dacus et al. disclose the circuit use in transmitter mobile system (Col. 1 line 10-17) but do not disclose the amplifier bias circuit and the amplifier device are implemented on a single integrated circuit.

Dening et al. disclose an amplifier (Fig. 1) with bias circuitry that is printed as a single monolithic integrated circuit (Col. 3 line 8-12) and use in transmitter mobile system (Col. 1 line 13-25).

Dacus et al. and Dening et al. are analogous art because they both are power amplifiers for transmitters of mobile system and provide bias to the amplifiers.

At the time of the invention, it would have been obvious to one of ordinary skill in the art to create Dening et al.'s circuit as single monolithic integrate circuit as taught in Dening et al. The motivation to do so is that since similar circuitry (e.g. Dening et al.'s)

performing the same function (transmitter for mobile system and providing bias for the amplifier) is implemented as single monolithic integrated circuit, then Dacus et al.'s circuit should be able to implemented as single monolithic integrated circuit as well.

19. With respect to claim 18, Dacus et al. disclose a circuit (Fig. 11) comprising an amplifier device (102) which is connected to at least one amplifier bias circuit (58, 202, 80), the amplifier bias circuit comprising: at least one first sensor device (58) for sensing a first amplifier characteristic (current) and for providing, at a first sensor output (84), a bias signal related to the first amplifier characteristic (Col. 5 line 35-40); at least one second sensor device (202) for sensing a second amplifier characteristic (output envelope signal S_{env}) and for providing, at a second sensor output (208), a bias signal related to the second amplifier characteristic (Col. 14 line 1-19); which first sensor output (84) and second sensor output (208) are each connectable to **at least one** bias input of said amplifier device (both outputs connected to signal processor 80 that provide gate bias at node 112 to the amplifier 102; Col. 14 line 35-42). Also Dacus et al. disclose the circuit use in transmitter mobile system (Col. 1 line 10-17) but do not disclose the amplifier bias circuit and the amplifier device are implemented on a single integrated circuit.

Dening et al. disclose an amplifier (Fig. 1) with bias circuitry that is printed as a single monolithic integrated circuit (Col. 3 line 8-12) and use in transmitter mobile system (Col. 1 line 13-25).

Dacus et al. and Dening et al. are analogous art because they both are power amplifiers for transmitters of mobile system and provide bias to the amplifiers.

At the time of the invention, it would have been obvious to one of ordinary skill in the art to create Dening et al.'s circuit as single monolithic integrate circuit as taught in Dening et al. The motivation to do so is that since similar circuitry (e.g. Dening et al.'s) performing the same function (transmitter for mobile system and providing bias for the amplifier) is implemented as single monolithic integrated circuit, then Dacus et al.'s circuit should be able to implemented as single monolithic integrated circuit as well.

20. With respect to claim 19, combination resulting the circuit as single monolithic integrated circuit and it is **inherently** a single crystal integrated circuit (Applicant's specification page 6 line 34 **stated as a fact** that MMIC is a form of single crystal integrated circuit. The combination is a monolithic integrated circuit use for mobile system, which use microwave frequencies, thus the combination is a MMIC. As a fact, MMIC is a form of single crystal integrated circuit.)

Allowable Subject Matter

21. Claim 4-14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

22. The following is a statement of reasons for the indication of allowable subject matter:

23. With respect to claim 4-5, no cited reference discloses the sensors communicate with each other.

24. With respect to claim 6-8, no cited reference discloses the sensors are connected to an RF decoupling device.

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25. With respect to claim 9-14, no cited reference discloses the sensors are field effect transistors.

Conclusion

26. Note that for claim 2 and 3, the first sensor is transistor 30 and the second sensor is transistor 20. While for claim 9 and 10, the first sensor is transistor 20 and the second sensor is transistor 30. Claim 2, 3, 9, and 10 all depend on claim 1. For consistency and ease of reading, the applicant is advised to use the same sensor for all dependant claims depend from the same parent claim.

27. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Burke, Jr. (US 5,113,068) discloses a circuit with separate temperature and gain compensation circuit; Krvavac (US 6,774,724; Fig. 2) and Doherty et al. (US 6,825,725; Fig. 3) disclose circuitry read on the invention but fail on the date; Dening et al. (US 6,313,705), Joly et al. (US 6,778,018) and Green (US 6,922,107) disclose bias circuit to RF amplifier; and Adachi et al. (US 5,272,452) disclose a low pass filter (100) used in a PLL.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alan Wong whose telephone number is (571) 272-3238. The examiner can normally be reached on Mon-Thurs 8:00am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bob Pascal can be reached on (571) 272-1769. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AW



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